

Abstract

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Title of Diploma Thesis: Pyrazine derivatives as potential antimycobacterial drugs II.

Tuberculosis has become one of the most serious health problems in the contemporary world. Mycobacteria causing this disease are more and more resistant to conventional antibiotics due to their increasing consumption. Therefore scientists all over the world work on new efficient drugs suitable for treatment of this dangerous disease.

In the theoretical part of my diploma thesis, important facts and information regarding this disease and its therapy are summarized.

In this work eight new compounds derived from pyrazine-2-carboxamide were synthesized. These molecules were characterized by physicochemical properties (melting temperature, $\log P$, $\text{Clog } P$) and their structure was confirmed by elemental analyses, NMR and IR spectroscopy. The antituberculous, antifungal and antibacterial activities of the prepared substances were evaluated.

The results show that none of the prepared compounds has any antifungal or antibacterial activity. Only one substance (JZ-M12) is effective against *M. tuberculosis*, its MIC is $12,5 \mu\text{g} \cdot \text{ml}^{-1}$. Other molecules are ineffective against mycobacteria.